Title (en)
Rotor of vertical-axis wind turbine

Title (de)
Rotor für Windkraftanlage mit vertikaler Achse

Title (fr)
Rotor d'éolienne à axe vertical

Publication
EP 2696066 A2 20140212 (EN)

Application
EP 13179650 A 20130807

Priority
IT PD20120246 A 20120810

Abstract (en)
The present finding refers to a rotor of a vertical-axis wind turbine (10), comprising a shaft (11) from which spokes (12, 13) protrude radially to support blades (15, 16) having a substantially troposkein geometry; each blade (15, 16) has - the maximum chord (A1), of the section orthogonal to the extension axis of the blade, at at least one of its upper (18) and lower (19) ends, and minimum chord (A2) at its central part (20), the chord (A) varying continuously between such maximum (A1) and minimum (A2) values, - a ratio (C) between the thickness (B) and the chord (A) that is highest (C1) in its central part (20) and lowest (C2) at at least one of the upper (18) and lower (19) ends, said thickness/chord ratio (C) varying continuously between said maximum (C1) and minimum (C2) values.

IPC 8 full level
F03D 3/00 (2006.01); F03D 3/06 (2006.01)

CPC (source: EP)
F03D 3/005 (2013.01); F05B 2240/212 (2013.01); F05B 2240/301 (2013.01); Y02E 10/74 (2013.01)

Citation (applicant)
- US 5405246 A 19950411 - GOLDBERG STEVEN B [US]
- GB 2404227 A 20050126 - XC02 CONISBEE LTD [GB]
- SHELDAHL ET AL., AERODYNAMIC PERFORMANCE OF A 5-METRE-DIAMETER DARRIEUS TURBINE WITH EXTRUDED ALUMINIUM NACA-0015 BLADES
- SHELDAHL, COMPARISON OF FIELD AND WIND TUNNEL DARRIEUS WIND TURBINE DATA
- ASHWILL; LEONARD, DEVELOPMENTS IN BLADE SHAPE DESIGN FOR A DARRIEUS VERTICAL AXIS WIND TURBINE
- ASHWILL, MEASURED DATA FOR THE SANDIA 34-METER VERTICAL AXIS WIND TURBINE
- RACITI CASTELLI; FEDRIGO; BENINI, EFFECT OF DYNAMIC STALL, FINITE ASPECT RATIO AND STREAMTUBE EXPANSION ON VAWT PERFORMANCE PREDICTION USING THE BE-M MODEL

Cited by
EP3805555A4; US11486353B2; US11635058B2

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 2696066 A2 20140212; EP 2696066 A3 20150603; IT PD20120246 A1 20140211

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EP 13179650 A 20130807; IT PD20120246 A 20120810